Effects Of Structured Background Music On Walking Skill Development Of Grade-1 Children

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ABSTRACT

This experimental study investigated the effect of a structured background music program on motor development in grade-I children. Sixty children from challenger public school, Pune, were selected using a non-probability-based convenience sampling technique, and divided into control (n=30) and experimental (n=30) groups. The experimental group underwent a six-week structured background music program, while the control group received the regular physical education program without music. The performance of the children was observed before and after the intervention using a researcher-designed assessment tool, where the motor skill was divided into sub-skills that were rated on a 5-point scale. Independent sample 't' test revealed significant improvements in walking skills in the experimental group (t=2.525, p=0.014). This study highlights the potential of the structured background music program as a valuable adjunct to physical education programs

Keywords : Motor Development; Structured Background Music Program; Grade-I Children.

Introduction

The most fundamental and significant trait shared by all living beings is movement. As the pinnacle of creation, humans possess a unique capacity for complex movement patterns that distinguish us from other living organisms. Movement is an essential aspect of human behavior, commencing while the infant is still in the mother's womb. From birth, children embark on a journey to master their bodily movements, navigate

their surroundings, and interact with the world around them. This intricate process of learning is termed motor skill development.

Motor skills are categorically divided into three primary types: stability and balance, object control (encompassing actions such as throwing, catching, and kicking), and locomotor (including movements like running, hopping, and jumping). According to the renowned psychologist Jean Piaget, children utilize their bodily experiences to comprehend the world from the moment they are born. Piaget posits that sensory and motor experiences form the foundation of all intellectual functioning during the first two years of life.

Motor development is a vital dimension of a child's overall growth, laying the groundwork for future cognitive, social, and emotional development. As Crawford and Wilson astutely observe, the period between two and six years of age is deemed the "golden years" of motor development. During this phase, most children acquire a fundamental range of locomotor and manipulative skills, exhibit goal-directed motor behaviors, and learn to integrate two or three movement sequences to achieve specific objectives. The early years of motor development establish the framework for neuromuscular coordination, which will be employed throughout life to navigate many mental, social, emotional, and recreational challenges. Interestingly, music has been an integral part of human existence since immemorial, serving as a universal language that transcends cultural and linguistic boundaries. As Longfellow appropriately notes, music has been a potent tool for remembering stories, enhancing learning, and fostering cognitive development. Recent research in neuropsychology underscores the profound impact of music on verbal memory, spatial-temporal reasoning, and higher-order thinking and reading skills. Moreover, some theories of language development propose that music preceded language, with humans learning to dance and sing before acquiring verbal communication skills.

Research Objectives

The purpose of this study was the effects of structured music program on grade-I children. This study aimed:

1. To get the six-week structured background music program ready for the first-graders.
2. To create the assessment form for gauging kids' motor development.
3. To perform an initial assessment.

4. To introduce the six-week structured background music program for six-year-olds.

5. To conduct a post-test.

6. To compare the effect of six weeks structured background music program on the motor development of children aged six years.

Hypothesis of the research

H_1: There will be a significant effect of the structured background music program on the walking of grade-1 children.

H_0: There will be no significant effect of the structured background music program on the walking of grade-1 children.

Research method

The researcher employed an experimental approach for this study. By comparing the findings of the pre-test and post-test, the effects of the structured physical education background music program on children's motor development were examined. Because the pre-test and post-test groups were not equal, this study employed a pre-experimental design. When the experimental and control groups are roughly the same, this design is frequently employed in classroom experiments.

X O1 → → O3

C O2 → → O4

O1 and O3 were the pre test and post test of the experimental group respectively.

O2 and O4 were pre test and post test of the control group respectively.

X- Treatment

C- Control group

Variables of the study

- Independent variables of this study are six weeks structured background music program
- Dependent variables of this study are motor development in respect of loco motor skills.
- Intervening variables of this study are interest, response, truthfulness

- Extraneous variables of this study are socio-economic status.

Population

The population for the study was all the grade-I students of the Challenger Public School (CBSE Board), Pimple- Saudagar, Pune.

Sample of the study

For the current study non-probability method in which purposive sampling technique was used. Researcher has selected 60 students of Challenger Public School, Pune were selected as the sample for this study which 30 student formed the experimental group and 30 students formed the control group.

Procedure

1. Consent of school and parents to go ahead with the study.
2. Tool development procedure.
3. To develop a structured background music program conduct.
4. Administering the Pre-Test and authentication of the score.
5. Captured locomotor movement by the camera
6. Designing and implementing the programmed.
7. Administering the Post-Test and authentication of the score.
8. Statistical analysis and interpretation of the data.

Tools for data collection

The Locomotor Testing Tool was specifically designed to assess locomotor skills in children. To ensure its effectiveness, a pilot study was conducted on 30 students aged 5-6 years in Pune City. The tool's validity was established through face validity and content validity, confirming that it accurately measures locomotor skills. Additionally, the tool's reliability was checked by experts, ensuring consistent results.

Table No. 1 : *Assessment Tool For Walking*

SKILL	Low	Below average	Average	Good	Excellent	Remarks
	1	2	3	4	5	
i. Heel-ball-toe movement						
ii. Chin up						
iii. Look Straight						
iv. Stomach in						
v. Alternate hand and leg movement						

The assessment tool evaluates children's walking skills using a 5-point rubric scale. This tool provides a structured approach to assessing motor skill development, enabling researchers to monitor progress, identify areas for improvement, and understand the factors influencing motor skill development. Ultimately, this assessment tool facilitates the creation of targeted interventions to enhance motor skills in children.

Result

The data analysis will involve descriptive statistics, including mean, standard deviation, and frequency distributions for walking skill scores, as well as inferential statistics, specifically an independent sample t-test, to compare walking skill scores between the experimental and control groups.

Change in performance

The experiment we conducted stimulated the researcher's curiosity in change. Change in performance, the key statistic for the researcher, was calculated by subtracting the pre-test score from the post-test score.

4.2 Analysis of Change in Walking Score

Table No. 2 : *Group Statistic: Analysis of Change in Walking Score*

Group	N	Mean	Std. Deviation
Control	30	9.7333	4.40950
Experimental	30	12.4667	3.96305

Table No. 3 : *Independence Sample Test: Change in Walking Score*

	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	.365	.548	-2.525	58	.014	-2.73333
Equal variances not assumed			-2.525	57.351	.014	-2.73333

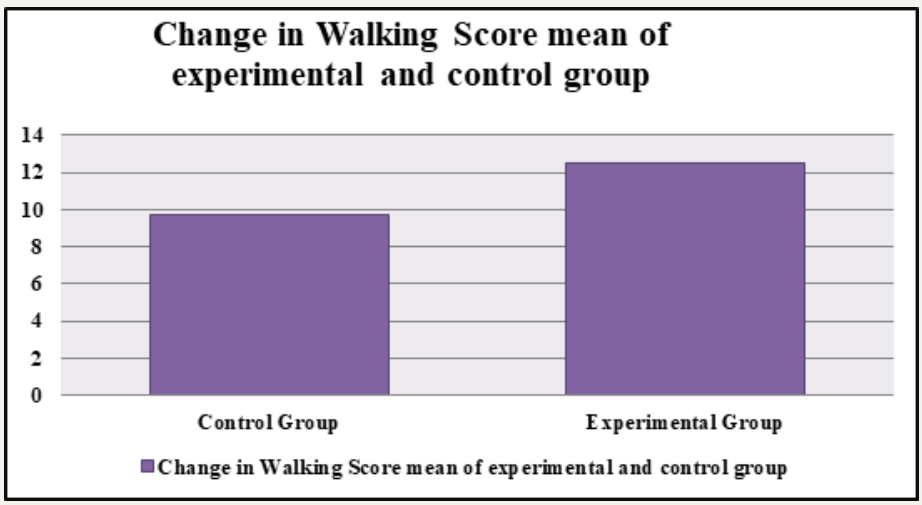

Figure No. 1: *Change in walking score mean of experimental and control group*

Table 4.1 shows that the experimental group's mean walking performance score was 12.4667 with a standard deviation of 3.96305, while the control group's mean score was 9.7333 with a standard deviation of 4.40950. To test the equality/homogeneity of variances of the control and experimental groups, Levene's test was used. From Table 4.2, the F-value was 0.365, which was statistically not significant at 0.05 levels. (p=0.548). Thus, the null hypothesis of equality of variances may be accepted, and it was concluded that the variances of the two groups are the same. A comparison between the change in mean value of the experimental group and the control group was done by an independent sample 't' test. The value of t for comparison of the mean was 0.548, and the degrees of freedom was 58, which was significant at the 0.05 level (p = 0.014). This indicates that the experimental group was superior to the control group in developing walking. therefore, the null hypothesis was rejected and the alternative hypothesis was accepted.

It was proved that the mean difference between pre-test and post-test scores for the experimental group (12.4667) was greater than that of the control group (9.7333). This significant difference suggests that the Structured Background Music Program had a positive impact on motor development. Therefore, the researcher can conclude that the program is effective for motor development in Grade I children.

Discussion

The findings of this study indicate that the experimental group, which received the structured background music program (SBMP), demonstrated significant improvements in walking skills. These findings suggest that the SBMP was effective in walking skills in children. The results of this study are partially consistent with previous research, which has shown that music-based interventions can improve motor skills in children (Basmen, 1967). Basmen's study found that elementary school children who used musical instruments showed greater improvement in their fundamental motor skills than those who did not use musical instruments.

The implications of this study are significant, as they suggest that structured background music program can be a useful tool for preschool educators and preschool music educators to coordinate effective music and movement activities that have a positive effect on children's motor development. The study's findings highlight the importance of carefully designing music-based interventions to target specific motor skills.

Conclusion

This study demonstrates the positive impact of background music on students' learning experiences in physical education classes. The findings suggest that background music

enhances learning skills, motivation, and behaviour, creating a more engaging and supportive learning environment. The results have significant implications for physical education teachers and policymakers, highlighting the potential of background music to improve student learning and achievement.

Recommendations

1. The effects of fast- and slow-tempo music on motor development
2. The program should have more skills non locomotor skills, manipulative skills, space awareness and social awareness
3. The background music effects on children's attention and engagement.
4. The idea that background music is very effective for the student to stay on-task, increase their motivation to learn, and have positive behaviour
5. The power of music: Its impact on the intellectual, social and personal development of children.
6. Examine the effects of background music on motor skill development in children with special needs.
7. Investigate the impact of background music on physical activity levels and motivation in children.
8. Create a music-based program to improve motor skills in children, incorporating elements of rhythm, melody, and movement.
9. Investigate the impact of background music on emotional development, including stress reduction and mood enhancement, in children.

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